Palm Beach County
Water Resource Advisory Task Force
September 20, 2012

Update on the Lower East Coast Water Supply Plan

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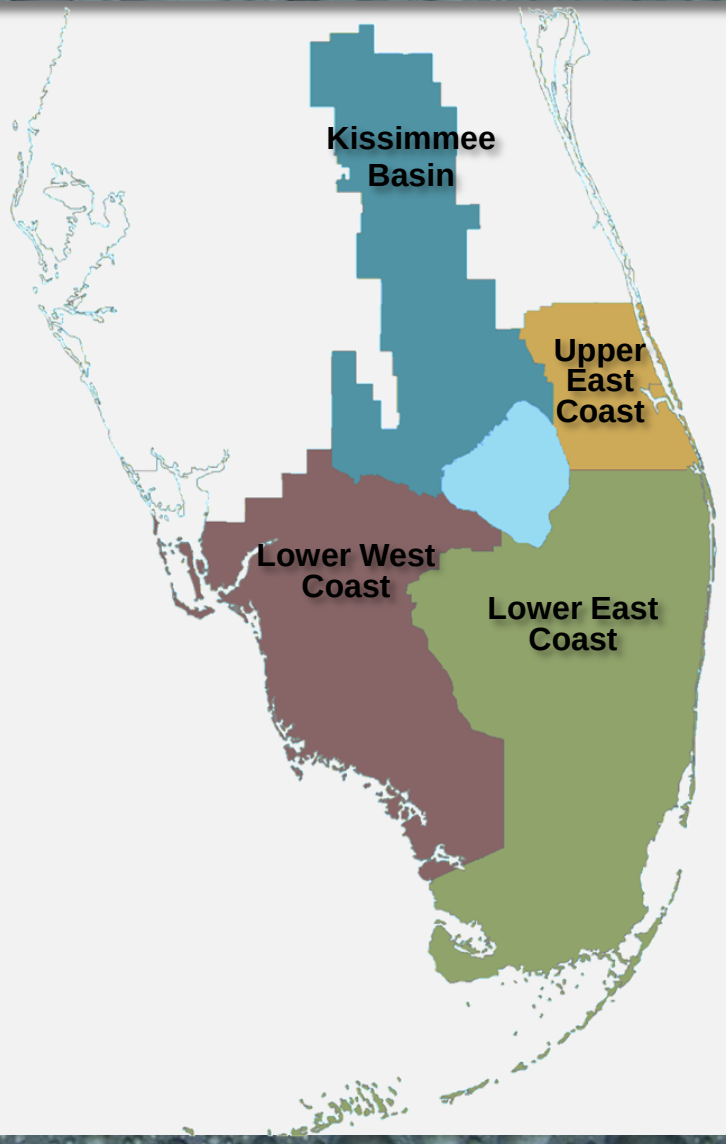
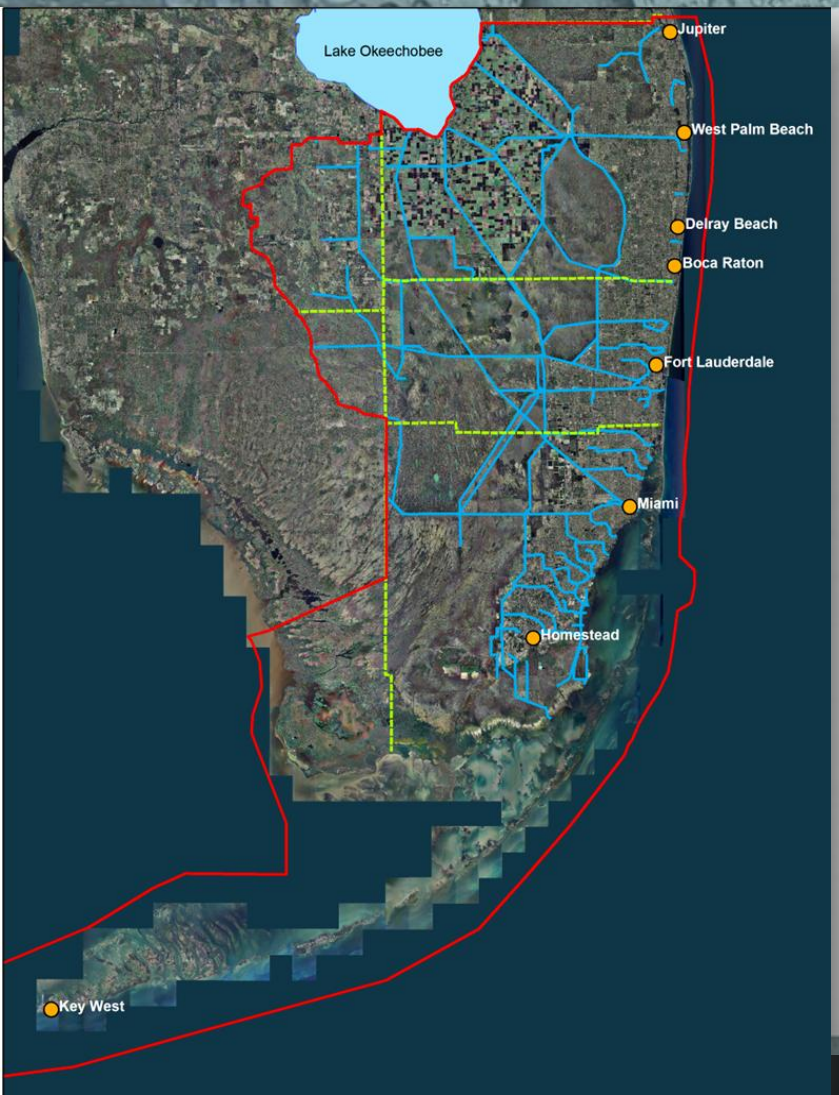
What is a Water Supply Plan?

- Current and future look at water needs
- Strategies to meet future water demands and the needs of the environment
- Based on at least a 20-year future planning horizon



The Lower East Coast Planning Area



- Includes:
  - Palm Beach, Broward, Miami-Dade and Monroe counties
  - Eastern Collier and Hendry counties
- 113 local governments
- 52 public water supply utilities
- Major agricultural industry
- Significant environmental features

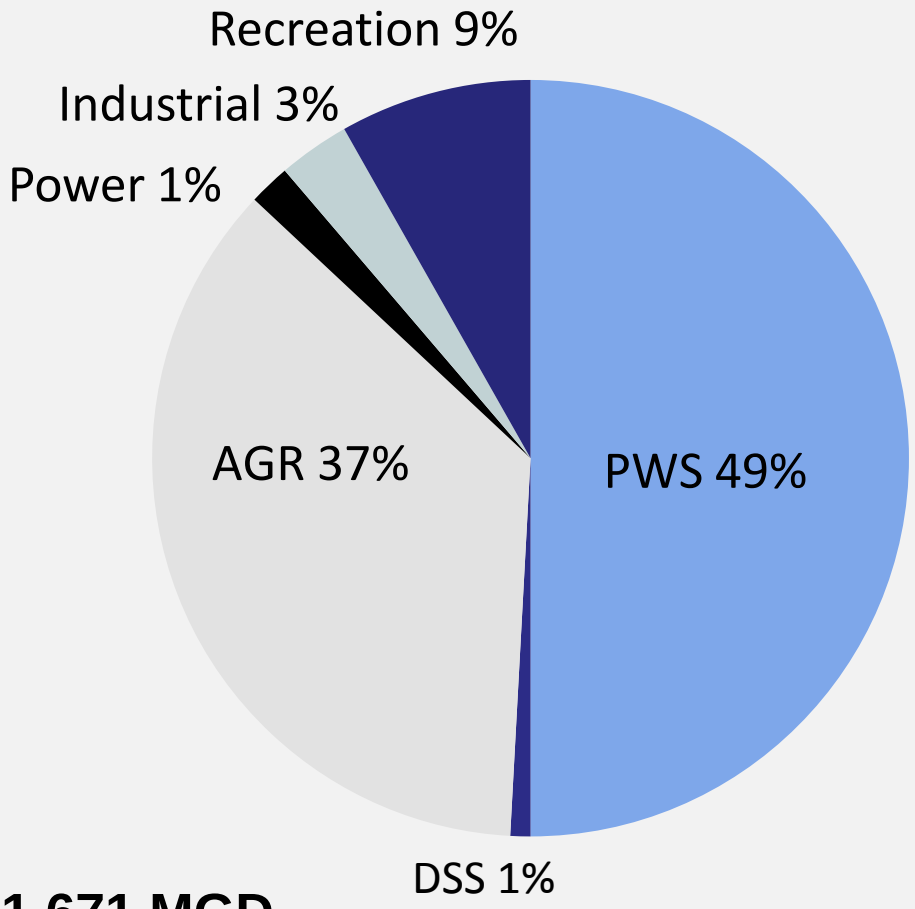
Progress to Date

- Three WRAC Workshops held to date
- Coordinated with 52 utilities to develop service area maps, population and demand projections
- Conducted meetings with representatives from agriculture, environment/restoration and energy to develop projections of future water needs
- Currently conducting scoping runs
- Draft chapters 1 and 2 distributed for review
- Expanded utility summary distributed for input on proposed projects

Water Supply Categories

The 2010 Pie

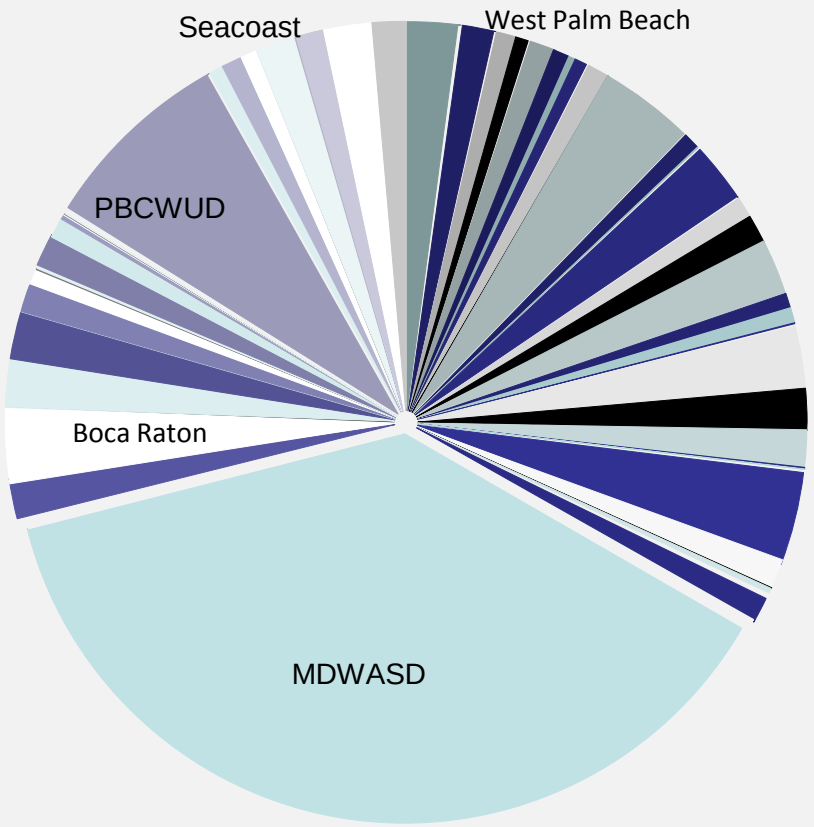
- Public Water Supply
- Domestic Self Supply
- Agriculture
- Power Generation
- Industrial/Commercial
- Recreational/Landscape



Total 2010 Demand: 1,671 MGD

Populations Served by Public Water Supply

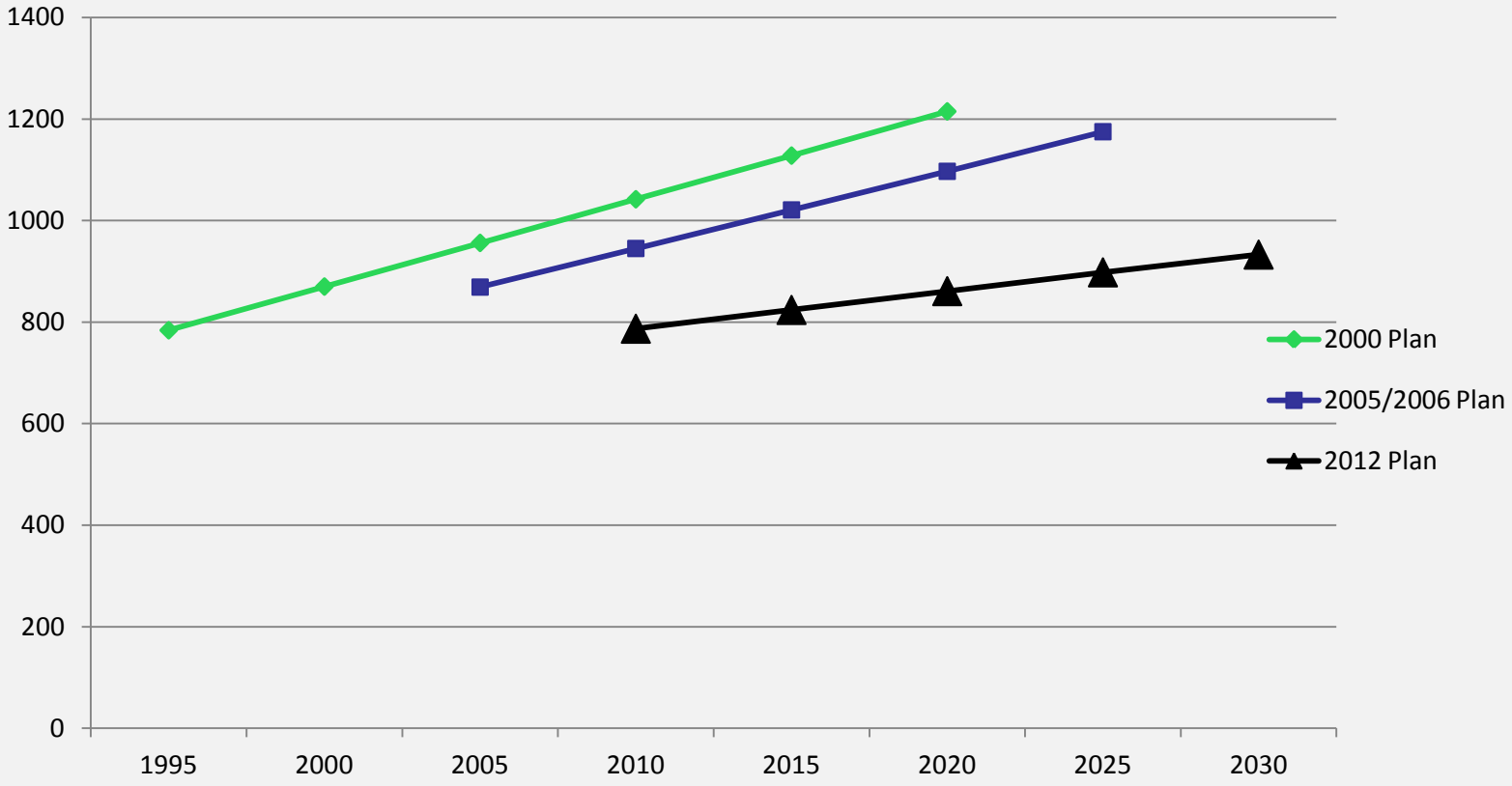
- Includes: Palm Beach, Broward, Miami-Dade and Monroe Counties
- Population:
  - 2000 4,914,716
  - 2010 5,537,841
  - 2030 6,558,550
- 52 public water supply utilities



Total Demand Projections

Water Use Category	2010 (MGD)	2030 (MGD)	Increase (MGD)
Public Water Supply	845.3	1,005.9	160.6
Domestic Self-Supply	16.6	18.5	1.9
Agricultural Self-Supply	604.0	674.5	70.5
Industrial/Commercial/Institutional Self-Supply	44.3	56.6	12.3
Recreational/Landscape Self-Supply	148.9	152.8	3.9
Power Generation Self-Supply	11.7	33.3	21.6
Grand Total for LEC Planning Area	**1,670.8**	**1,941.6**	**270.8**

Evolution of Demand Projections



Public Water Supply Finished Water Demand (MGD)

Increase in PWS Finished Water Demand from 2010 to 2030

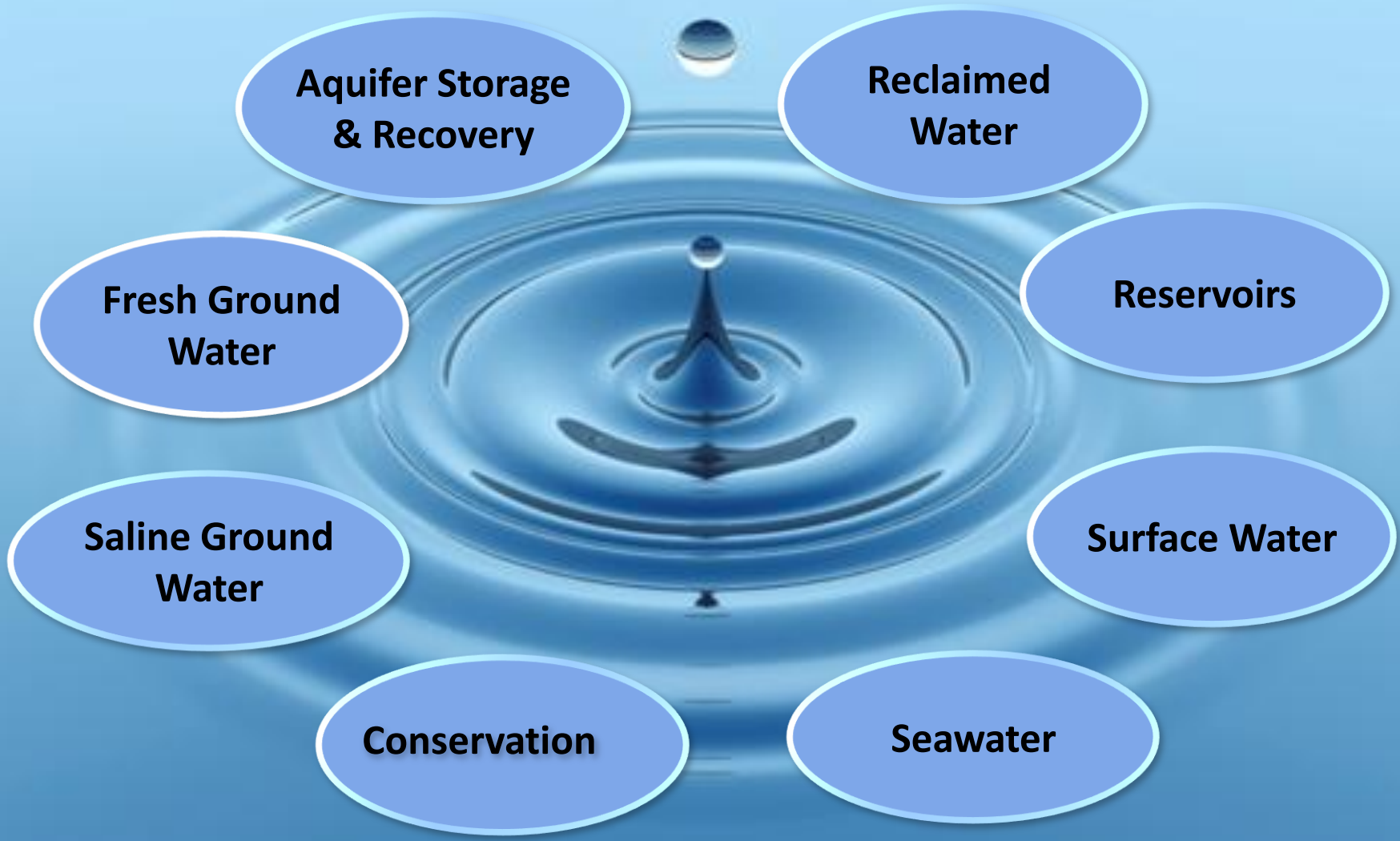
- Palm Beach: 54 MGD (20 utilities)
- Broward: 32 MGD (25 utilities)
- Miami-Dade: 64 MGD (6 utilities)
- Monroe: 5 (1 utility)

✓ **Greater than 90% of the 2030 demand is already allocated in CUPs.**

Emerging Themes

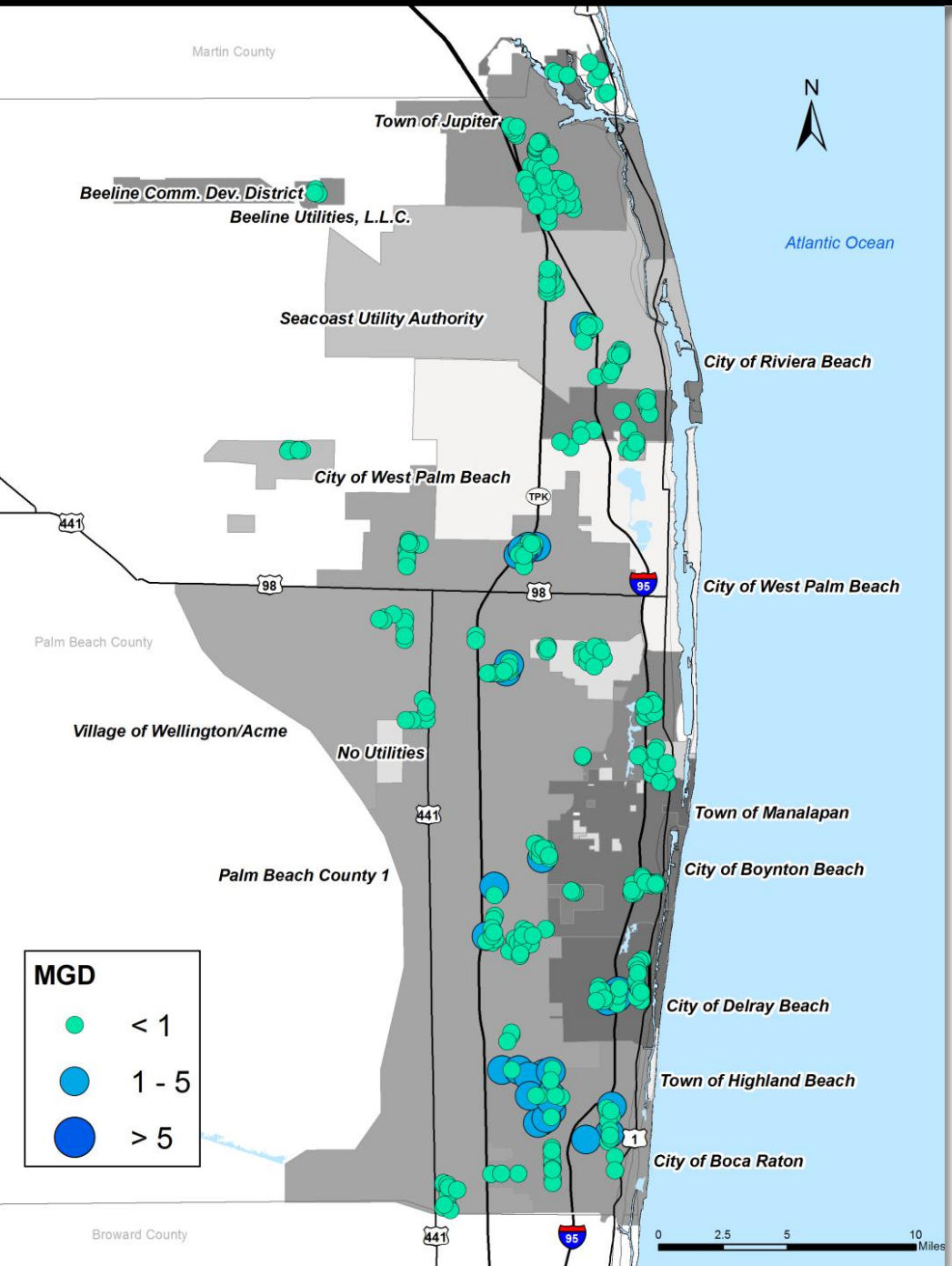
- Flattening demands and lower per capita rates have decreased the need for large system expansions
- The combined permitted water use allocation of 1,176 MGD enables most utilities meet some or all of their future demand without additional projects
- Many AWS projects recommended in the 2005-2006 LEC Plan have been deferred and may not be necessary until after the 2030 horizon
- The Ocean Outfall Rule may be the largest driver for “new” projects in the near term

Water Source Options



Proposed Projects from Utility Profiles

	(PBC/LEC)
• Expansion of reclaimed water	(9/19)
• Conservation programs	(4/8)
• Floridan aquifer projects	(3/18)
• Stormwater/Surface water capture	(4/6)
• Recovery/recycling at water plants	(2/3)
• Aquifer recharge or ASR	(1/1)



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2010 Public Water Supply Surficial Aquifer System Withdrawals

845.3 MGD of finished water produced

Public Supply Systems Utilizing Upper Floridan Aquifer

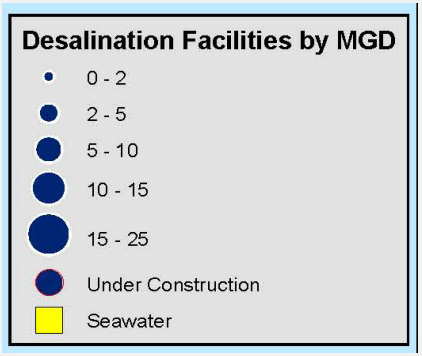
LEC Desal Facilities: 13

Total Desal Treatment Capacity: 86 MGD

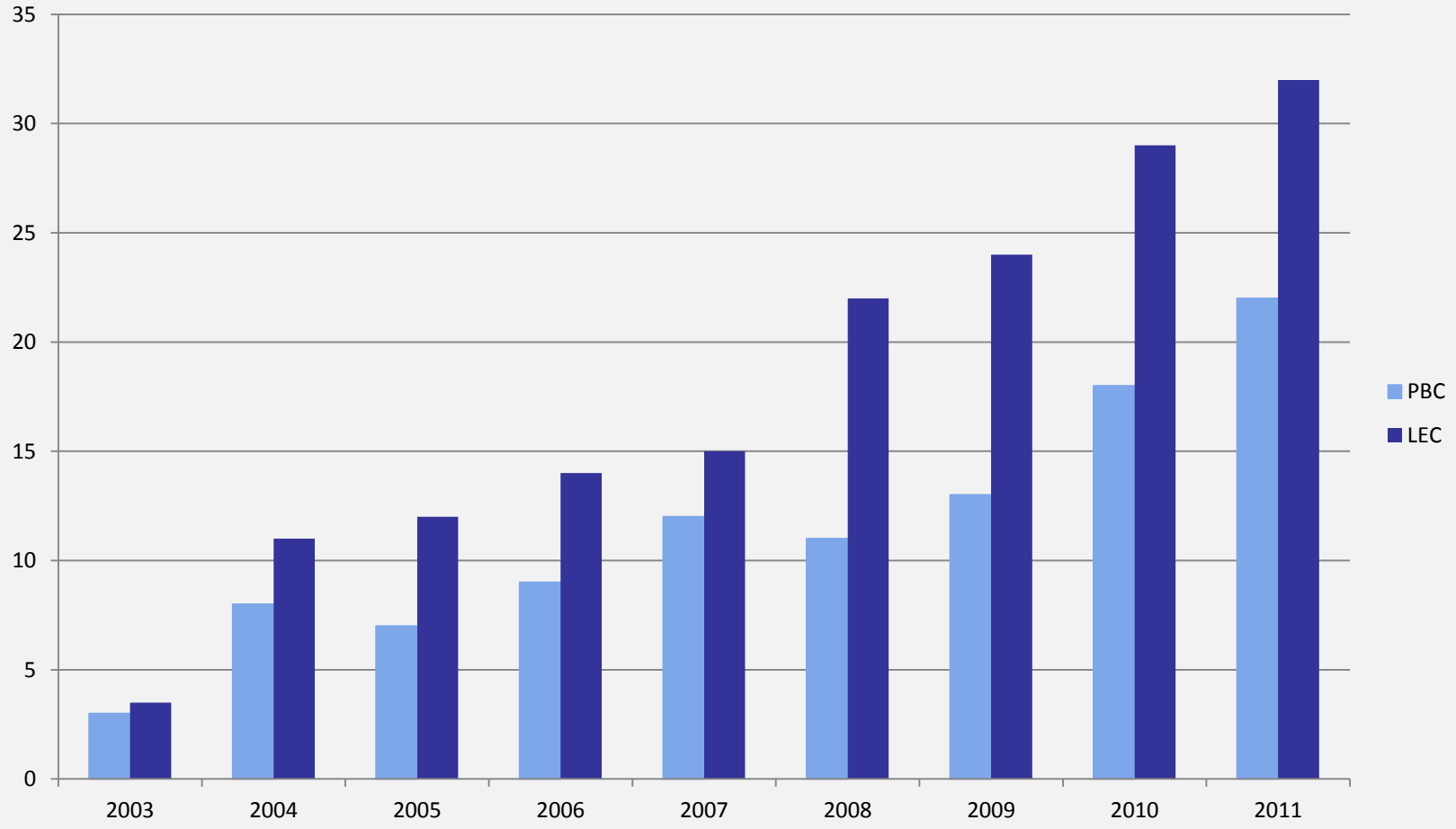
Palm Beach County

on the forefront of Floridan development

- Oldest and biggest is Jupiter (since 1989)
- Newest is Lake Worth

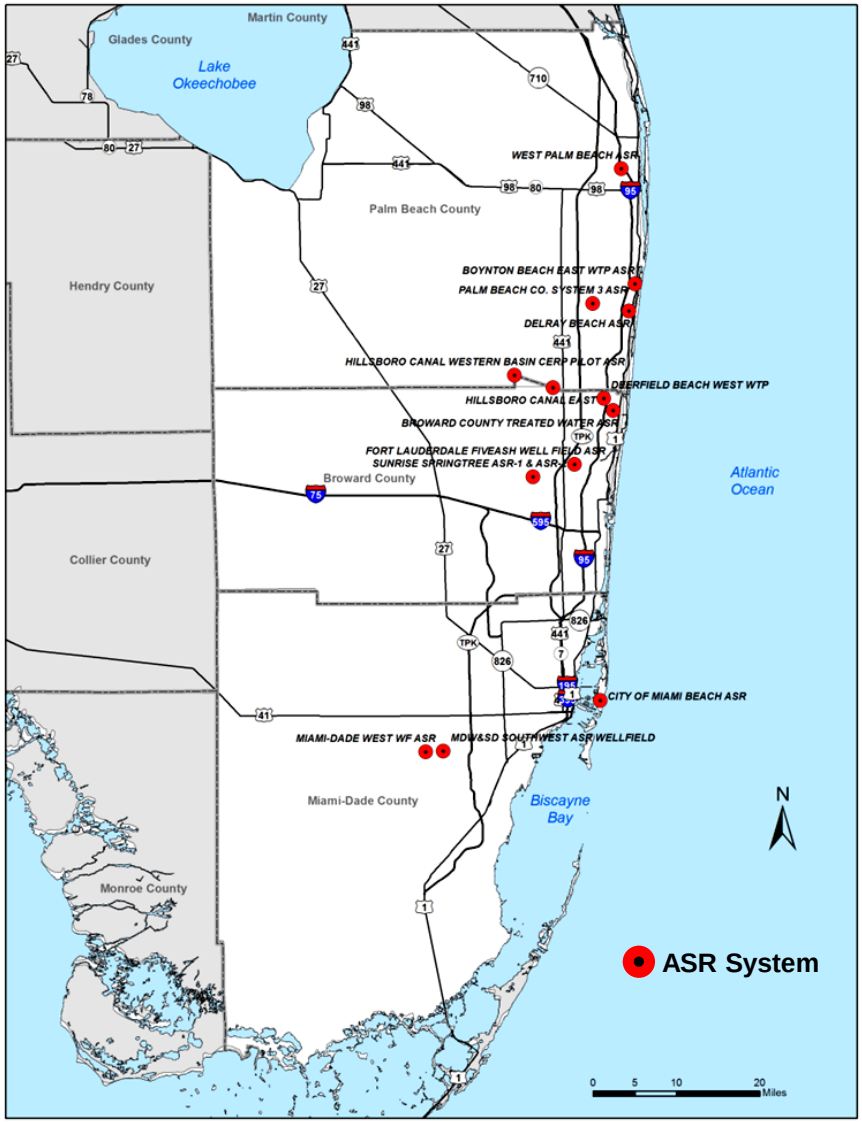


Saline Groundwater



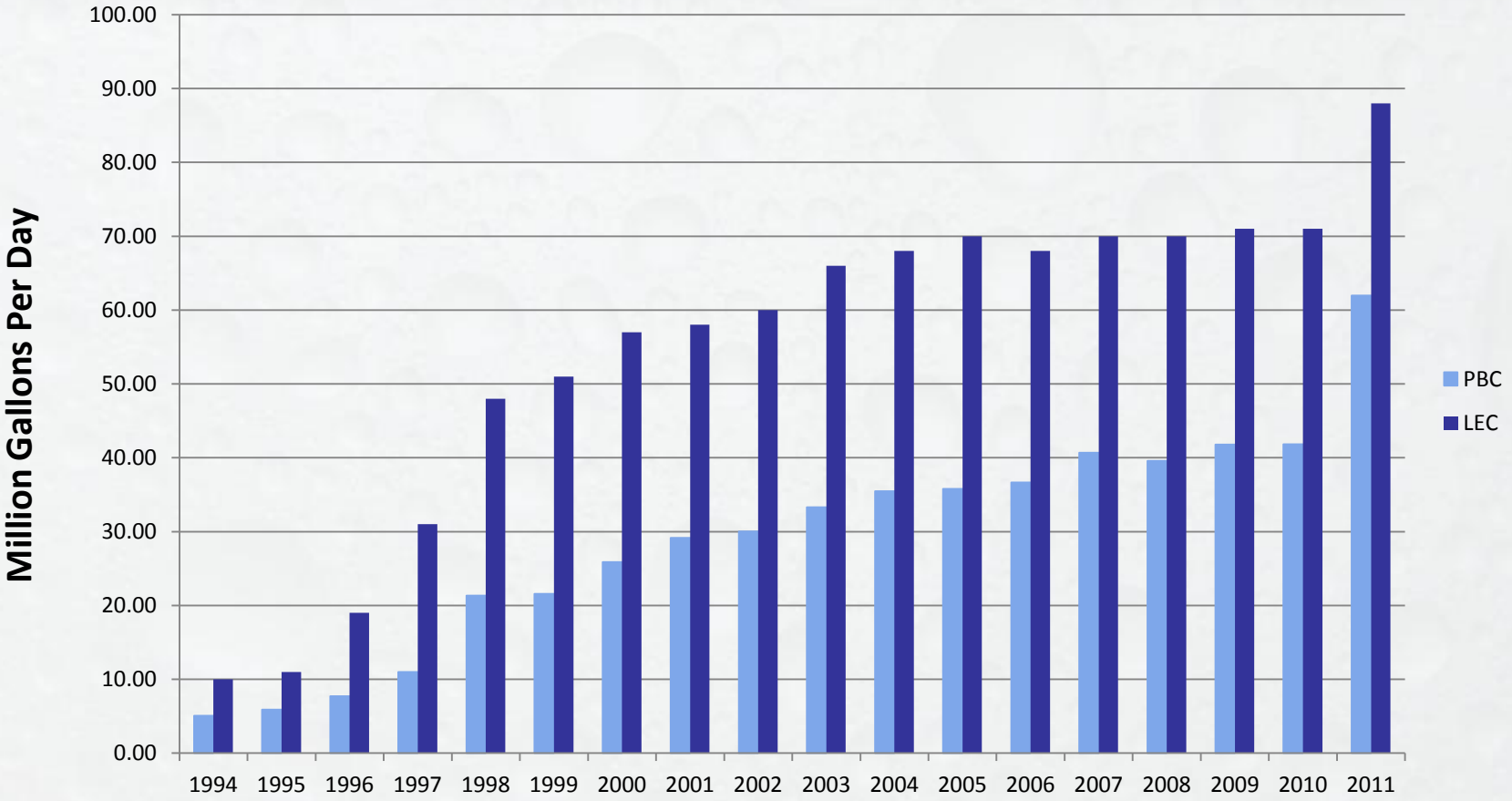
Floridan Aquifer Withdrawals in LEC in 2011 – 32 MGD

ASR in the LEC



- Storage of water in subsurface aquifer
- Several utilities installed ASR systems at WTPs
- Mixed results, but technology is still available in the “right” place
- Boynton Beach system is successfully operating and expanding

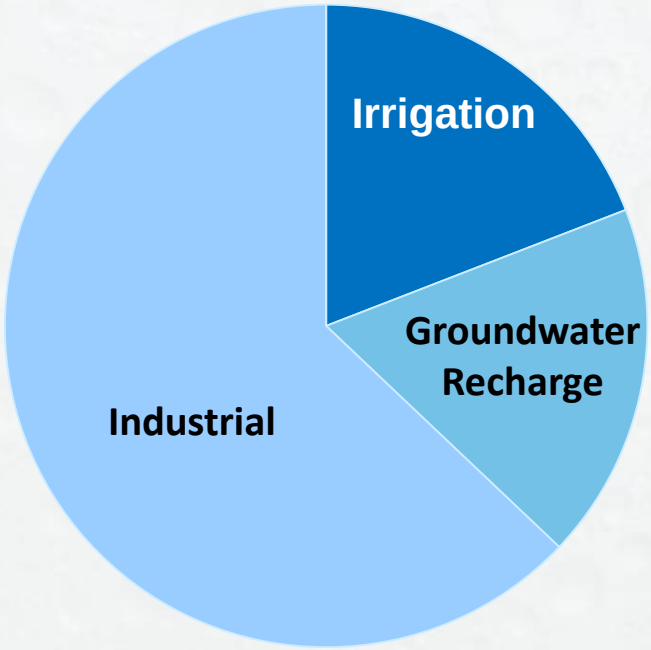
LEC Reuse History (1994-2011)



Sources: FDEP Reuse Inventories, 1994 - 2011

How is Water Reused in the LEC?

Broward, Miami-Dade, Monroe Counties



6% Reuse (27 MGD)

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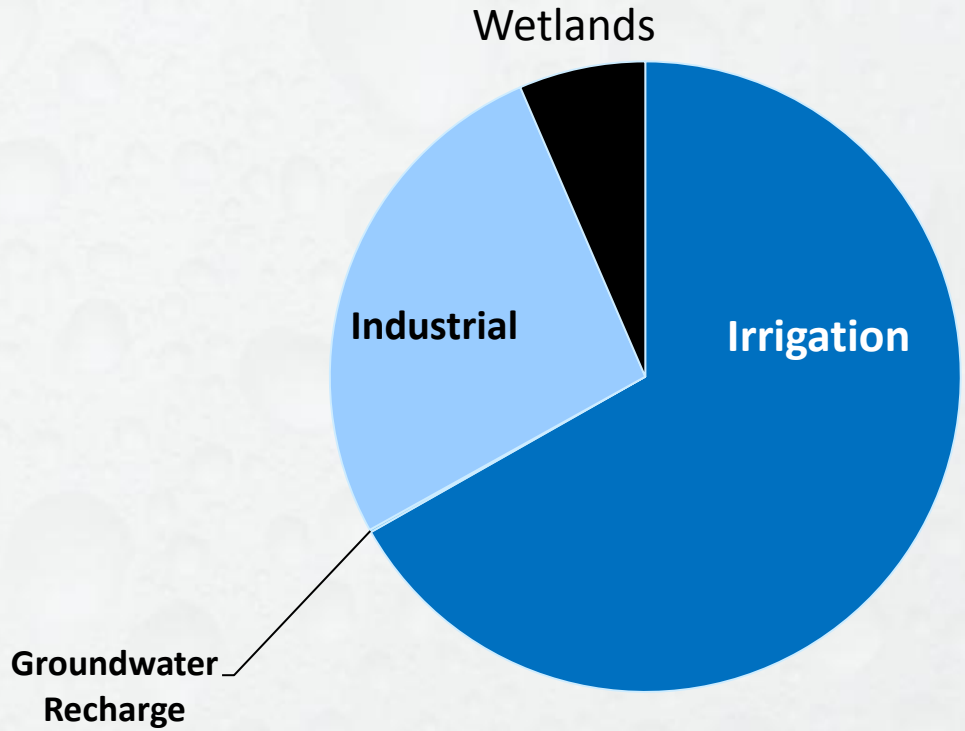
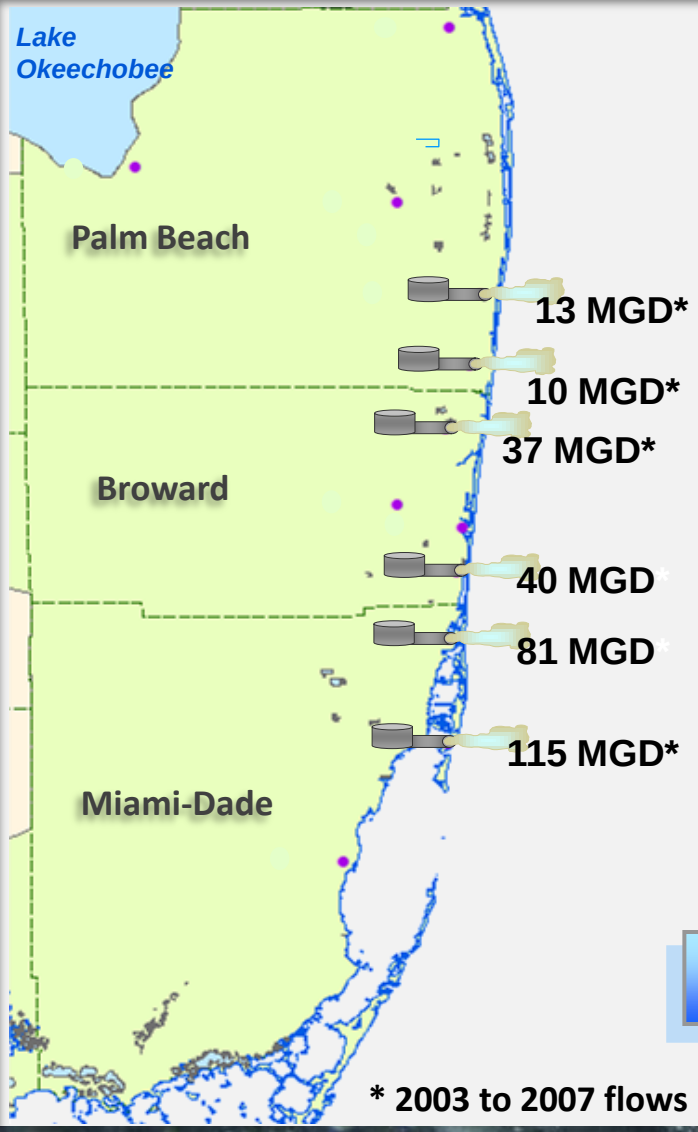


54% Reuse (62 MGD)

Source: FDEP, 2011

AWS - Reuse Opportunity: Ocean Outfall

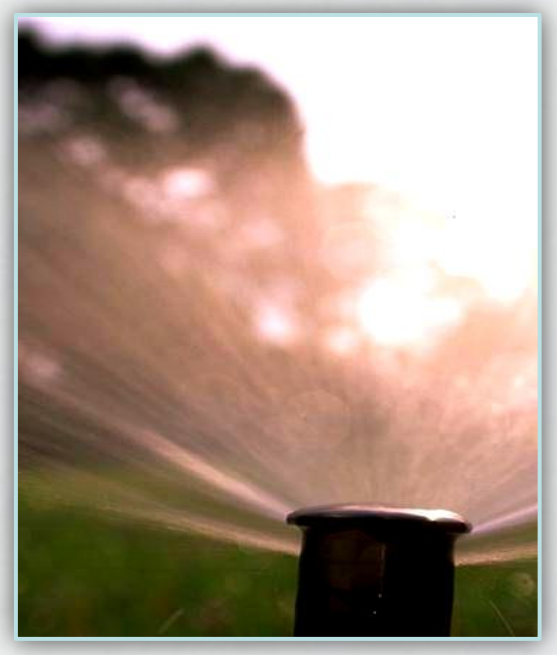


- By 2018: Discharges to meet advanced wastewater treatment levels
- By 2025: Must reuse at least 60% of annual average daily flow *(based on 2003-2007)*
- After 2025: Outfalls as backup discharge only; must meet advanced wastewater treatment levels

Required 60% Reuse = 178 MGD

Conservation

- ✓ Less expensive than new sources
- ✓ Can be reliable
- ✓ Meet gap between supply and demand
- ✓ Reduces severity of water shortages
- ✓ Reduces wasteful use
- ✓ Lowers carbon footprint
- ✓ Reduces wastewater flows
- ✓ Reduces peak demands
- ✓ Reduce, defer or eliminate the need for capacity expansion

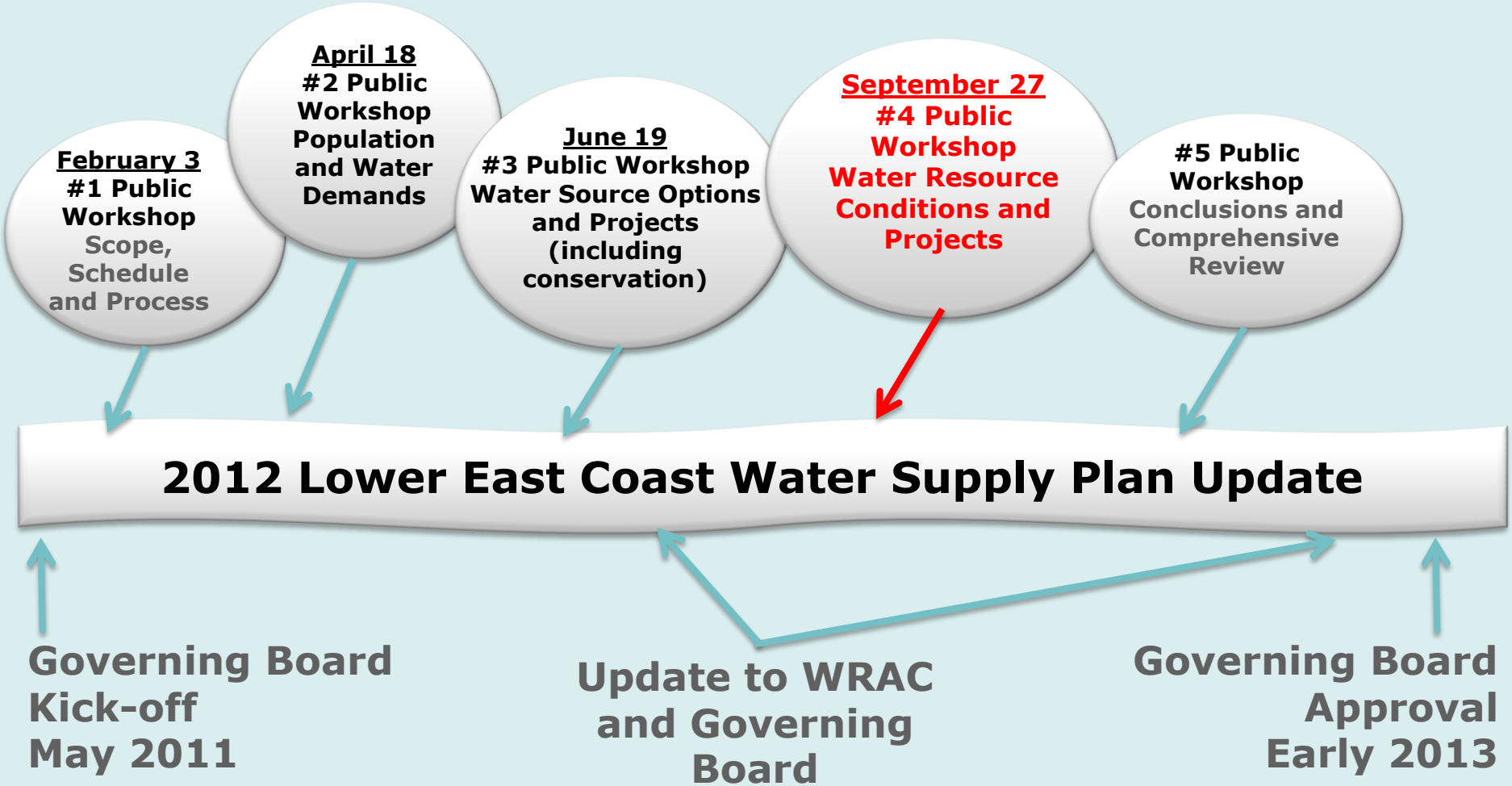


Per Capita Water Use

County	2000 gpcd	2005 gpcd	2010 gpcd
Palm Beach	219	203	157
Broward	153	139	124
Miami-Dade	168	157	139
Monroe	216	211	198
LEC Planning Area Average	176	163	140

Increasing conservation will help to meet 2030 demand.

LEC Water Supply Plan Update Schedule




Questions?
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